

**IN THE CLAIMS:**

Please amend the claims as follows:

1. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer, and an ultra-thin copper foil layer, wherein said ultra-thin copper foil layer and said peeling layer are provided between them with a strike plating layer and wherein said ultra-thin copper foil layer and said strike plating layer are one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer and wherein said peeling layer and said strike plating layer are composed of materials that are distinct and different from each other.

2. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer, and an ultra-thin copper foil layer, wherein said ultra-thin copper foil layer and said peeling layer are provided between them with a strike plating layer comprised of one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer, said strike plating layer is provided thereon ~~on it~~ with a copper plating ultra-thin layer, and said ultra-thin layer is provided thereon ~~on it~~ with said ultra-thin copper foil layer comprised of one of copper and a copper alloy and wherein said peeling layer and said strike plating layer are composed of materials that are distinct and different from each other.

3. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer, and an ultra-thin copper foil layer, wherein said ultra-thin copper foil layer and said peeling layer are provided between them with a strike plating layer comprised of one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer, said strike plating layer is provided thereon ~~on it~~ with a

copper plating ultra-thin layer, and said ultra-thin layer is provided thereon ~~on it~~ with said ultra-thin copper foil layer comprised of one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer and wherein said peeling layer and said strike plating layer are composed of materials that are distinct and different from each other.

4. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer, and an ultra-thin copper foil layer, wherein said ultra-thin copper foil layer and said peeling layer are provided between them with a strike plating layer comprised of one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer, said strike plating layer is provided ~~on it~~ thereon with an ultra-thin layer comprised of one of a phosphorus-containing copper layer and phosphorus-containing copper alloy layer, and the ultra-thin layer is provided ~~on it~~ thereon with said ultra-thin copper foil layer comprised of one of copper and a copper alloy and wherein said peeling layer and said strike plating layer are composed of materials that are distinct and different from each other.

5. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer, and an ultra-thin copper foil layer, wherein said ultra-thin copper foil layer and said peeling layer are provided between them with a strike plating layer comprised of one of a phosphorus-containing copper layer and a phosphorus-containing copper alloy layer, said strike plating layer is provided thereon ~~on it~~ with an ultra-thin layer comprised of one of a phosphorus-containing copper layer and phosphorus-containing copper alloy layer, and the ultra-thin layer is provided thereon ~~on it~~ with said ultra-thin copper foil layer comprised of one of a phosphorus-

containing copper and a phosphorus-containing copper alloy and wherein said peeling layer and said strike plating layer are composed of materials that are distinct and different from each other.

6. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer provided on the carrier foil, and an ultra-thin copper foil layer provided on the peeling layer, wherein a surface roughness Rz of a surface of the carrier foil facing the ultra-thin copper layer on the ultra-thin copper foil side is in a range of 0.1  $\mu$ m to 5  $\mu$ m, a surface roughness Rz of a surface of the ultra-thin copper layer facing the carrier foil side of the ultra-thin copper foil provided on the peeling layer provided on said carrier foil surface is in a range of 0.1  $\mu$ m to 5  $\mu$ m, and wherein there is disposed between said peeling layer and said ultra-thin copper layer a copper or copper alloy layer covering at least 90% of a surface of the peeling layer facing the ultra-thin copper layer at a position approximately 0.1  $\mu$ m to 0.2  $\mu$ m away from an average height of projections extending from a surface relief of a surface of the peeling layer facing the ultra-thin copper layer one of a copper and copper alloy layer covering at least 90% of the area of the surface of the peeling layer is formed at a position of the surface roughness Rz of the ultra-thin copper foil plus 0.1  $\mu$ m to 0.2  $\mu$ m at the ultra-thin copper foil side from the projections of the surface relief on the carrier foil side of the ultra-thin copper foil, and a peel strength after hot bonding of at least 300°C is 0.01 KN/m to 0.05 KN/m.

7. **(Currently Amended)** An ultra-thin copper foil with a carrier comprised of a carrier foil, a peeling layer provided on the carrier foil, and an ultra-thin copper foil layer provided on the peeling layer, wherein a surface roughness Rz of a surface of the

carrier foil facing the ultra-thin copper layer ~~on the ultra-thin copper foil side~~ is in a range  
of 0.1  $\mu$ m to 5  $\mu$ m, a surface roughness Rz of a surface of the ultra-thin copper layer  
facing the carrier foil ~~side of the ultra-thin copper foil provided on the peeling layer~~  
~~provided on said carrier foil surface~~ is in a range of 0.1  $\mu$ m to 5  $\mu$ m, and wherein there is  
disposed between said peeling layer and said ultra-thin copper layer a copper or copper  
alloy layer having a conductivity of at least 90% formed on a surface of the peeling layer  
facing the ultra-thin copper layer at a position approximately 0.1  $\mu$ m to 0.2  $\mu$ m away  
from an average height of projections extending from a surface relief of a surface of the  
peeling layer facing the ultra-thin copper layer ~~one of a copper and copper alloy layer~~  
~~having a conductivity of at least 90% is formed at a position of the surface roughness~~  
~~Rz of the ultra-thin copper foil plus 0.1  $\mu$ m to 0.2  $\mu$ m at the ultra-thin copper foil side~~  
~~from the projections of the surface relief on the carrier foil side of the ultra-thin copper~~  
~~foil~~, and a peel strength after hot bonding of at least 300°C is 0.01 KN/m to 0.05 KN/m.

8. **(Currently Amended)** An ultra-thin copper foil with a carrier as set forth in  
any one of claims 1 to 5, wherein ~~the~~ a surface roughness Rz of the a surface of the  
carrier foil ~~surface at~~ facing the ultra-thin copper foil layer ~~side~~ is in a range of 0.1  $\mu$ m to  
5  $\mu$ m and ~~the~~ wherein a peel strength after hot bonding of at least 300°C is 0.01 KN/m  
to 0.05 KN/m.

9. **(Currently Amended)** An ultra-thin copper foil with a carrier as set forth in  
any one of claims 1 to 5, wherein a surface roughness Rz of a surface of the carrier foil  
facing the ultra-thin copper layer ~~on the ultra-thin copper foil side~~ is in a range of 0.1  $\mu$ m  
to 5  $\mu$ m, a surface roughness Rz of a surface of the ultra-thin copper layer facing the  
carrier foil ~~side of the ultra-thin copper foil provided on the peeling layer provided on~~

~~said carrier foil surface is in a range of 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$ , and wherein there is disposed between said peeling layer and said ultra-thin copper layer a copper or copper alloy layer covering at least 90% of a surface of the peeling layer facing the ultra-thin copper layer at a position approximately 0.1  $\mu\text{m}$  to 0.2  $\mu\text{m}$  away from an average height of projections extending from a surface relief of a surface of the peeling layer facing the ultra-thin copper layer one of a copper and copper alloy layer covering at least 90% of the area of the peeling layer surface is formed at a position of the surface roughness  $R_z$  of the ultra-thin copper foil plus 0.1  $\mu\text{m}$  to 0.2  $\mu\text{m}$  at the ultra-thin copper foil side from the projections of the surface relief on the carrier foil side of the ultra-thin copper foil, and a peel strength after hot bonding of at least 300°C is 0.01 KN/m to 0.05 KN/m.~~

10. **(Currently Amended)** An ultra-thin copper foil with a carrier as set forth in any one of claims 1 to 5, wherein a surface roughness  $R_z$  of a surface of the carrier foil facing the ultra-thin copper layer ~~on the ultra-thin copper foil side~~ is in a range of 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$ , a surface roughness  $R_z$  of a surface of the ultra-thin copper layer facing the carrier foil ~~carrier foil side of the ultra-thin copper foil provided on the peeling layer provided on said carrier foil surface is in a range of 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$ , and wherein there is disposed between said peeling layer and said ultra-thin copper layer a copper or copper alloy layer having a conductivity of at least 90% formed on the surface of the peeling layer facing the ultra-thin copper layer at a position approximately 0.1  $\mu\text{m}$  to 0.2  $\mu\text{m}$  away from an average height of projections extending from a surface relief of a surface of the peeling layer facing the ultra-thin copper layer one of a copper and copper alloy layer having a conductivity of at least 90% is formed at a position of the surface roughness  $R_z$  of the ultra-thin copper foil plus 0.1  $\mu\text{m}$  to 0.2  $\mu\text{m}$  at the ultra-thin copper~~

~~foil side from the projections of the surface relief on the carrier foil side of the ultra-thin copper foil, and a peel strength after hot bonding of at least 300°C is 0.01 KN/m to 0.05 KN/m.~~

11. **(Original)** An ultra-thin copper foil with a carrier as set forth in any one of claims 1 to 7, wherein said peeling layer is one of a chromium metal and chromium alloy.

12. **(Original)** An ultra-thin copper foil with a carrier as set forth in any one of claims 1 to 7, wherein said peeling layer is one of an oxide hydrate of a chromium metal and chromium alloy.

13. **(Original)** An ultra-thin copper foil with a carrier as set forth in any one of claims 1 to 7, wherein said peeling layer is formed by one of a chromium metal, chromium alloy, and oxide hydrate of one of a chromium metal and chromium alloy.

14. **(Original)** An ultra-thin copper foil with a carrier as set forth in claim 11, wherein the amount of deposited metal of one of a chromium metal and chromium alloy of the peeling layer is not more than  $4.5 \text{ mg/dm}^2$ .

15. **(Original)** An ultra-thin copper foil with a carrier as set forth in claim 12, wherein the amount of deposited metal of one of a chromium metal and chromium alloy in the peeling layer comprised of an oxide hydrate is not more than  $0.015 \text{ mg/dm}^2$ .

16. **(Original)** An ultra-thin copper foil with a carrier as set forth in claim 13, wherein the amount of deposited metal of one of a chromium metal and chromium alloy of the peeling layer is not more than  $4.5 \text{ mg/dm}^2$ .

17. **(Original)** An ultra-thin copper foil with a carrier as set forth in any one of claims 1 and 5 to 7, wherein said peeling layer is one of nickel, iron, an alloy of the same, and an oxide hydrate containing the same.

18. **(Cancelled)**

19. **(Cancelled)**

20. **(Cancelled)**

21. **(Cancelled)**

22. **(Cancelled)**

23. **(Cancelled)**

24. **(Cancelled)**

25. **(Original)** A printed circuit board wherein an ultra-thin copper foil with a carrier as set forth in any one of claims 1 to 7 is used to form high density ultrafine interconnects.

26. **(Cancelled)**

27. **(Original)** A printed circuit board wherein an ultra-thin copper foil with a carrier as set forth in claim 8 is used to form high density ultrafine interconnects.

28. **(Original)** A printed circuit board wherein an ultra-thin copper foil with a carrier as set forth in claim 9 is used to form high density ultrafine interconnects.

29. **(Original)** A printed circuit board wherein an ultra-thin copper foil with a carrier as set forth in claim 10 is used to form high density ultrafine interconnects.